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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/839,680

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Robin Speed

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EXAMINER

CZEKAJ, DAVID J

ART UNIT

PAPER NUMBER

2621

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
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3 MONTHS

01/05/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/05/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

Office Action Summary

Application No.

09/839,680

Applicant(s)

SPEED ET AL.

Examiner

Dave Czekaj

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

The common knowledge or well-known in the art statement with regards to claims 4, 7, 12, and 18 is taken to be admitted prior art because applicant failed to traverse the examiner's assertion of Official Notice.

On page 8, applicant argues that Radha fails to disclose receiving an indication of first and second quantities of residual samples remaining on a per-region basis. While the applicant's points are understood, the examiner respectfully disagrees. The examiner relied upon Radha to generally show the indication. However, the examiner relied upon Takashima to disclose the specifics of the indication as claimed. Hence, see Takashima figure 8. There Takashima discloses an indication, the indication being the picture type and number of bits remaining, thus specifying a region. Therefore the rejection has been maintained.

On page 9, applicant argues that Rose fails to show the subtraction to generate a final representation. While the applicant's points are understood, the examiner respectfully disagrees. See for example Rose column 6, lines 11-35. There Rose discloses performing a subtraction to produce a residual value. This residual value is then fed the to reconstruction module and used to produce the final output. Therefore the rejection has been maintained.

On page 9, applicant argues that the stated motivation is too general (to improve efficiency). While the applicant's points are understood, the examiner respectfully disagrees. The examiners motivation is to improve efficiency by being able to take

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advantage of additional information without causing undesired conflicts/complexity, which indicates a specific modification. Therefore the rejection has been maintained.

On page 10, applicant argues that the Office's reliance on Radha with regards to claims 4 and 7 is misplaced. While the applicant's points are understood, the examiner respectfully disagrees. The examiner did not rely upon Radha to teach the limitations of claims 4 and 7, however relied upon Official Notice to indicate the limitations of the claims to be well known. Therefore the rejection has been maintained.

On page 12, applicant argues that Radha fails to show the hardware accelerator. While the applicant's points are understood, the examiner respectfully disagrees. See for example Radha figure 10. There Radha illustrates the accelerator or motion compensation and inverse DCT blocks. Therefore the rejection has been maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "the encoded region of media content" in lines 1-2.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 1 recites the mere

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manipulation of data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application. A practical application exists if the result of the claimed invention is “useful, concrete and tangible” (with the emphasis on “result”)(Guidelines, section IV.C.2.b). A “useful” result is one that satisfies the utility requirement of section 101, a “concrete” result is one that is “repeatable” or “predictable”, and a “tangible” result is one that is “real”, or “real-world”, as opposed to “abstract” (Guidelines, section IV.C.2.b)). Claim 1 merely manipulates data without ever producing a useful, concrete and tangible result. The steps of claim 1 call for receiving indications and performing addition and subtraction operations which clearly manipulates data without producing a useful, concrete, and tangible result.

In order to for the claimed product to produce a “useful, concrete and tangible” result, recitation of one or more of the following elements is suggested:

- The manipulation of data that represents a physical object or activity transformed from outside the computer.
- A physical transformations outside the computer, for example in the form of pre or post computer processing activity.
- A direct recitation of a practical application;

Applicant is also advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.

Claims 8 and 10-14 are rejected under 35 U.S.C. 101 because the claims do not meet the 35 U.S.C. 101 requirements (the claims have improper language regarding the

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storage medium). Please see the USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" in the Official Gazette notice of 22 November 2005, page 53, lines 7-10.

Claim(s) 9 and 15-20 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 9 and 15-20 define a computing system embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - Guidelines Annex IV). That is, the scope of the presently claimed computing system can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Radha et al. (6639943), (hereinafter referred to as "Radha") in view of Rose (6731811) in further view of Takashima (5754233).

Regarding claims 1, 8, 9, 10, and 19, Radha discloses an apparatus that relates to fine granular coding that includes both quality and temporal scalability (Radha: column 1, lines 11-13). This apparatus comprises "generating a motion compensated prediction of a region of content" (Radha: figure 7, column 7, lines 49-51, wherein the motion compensated prediction is generated by the motion estimation block, the region of content is the frames/streams), "receiving an indication of whether there are first and second quantities of residual samples remaining" (Radha: figures 5A and 8A, wherein the residual samples are contained with the enhancement and base layers, the indication is the process from moving from one layer to the next. The examiner notes that the apparatus would not move from one layer to the next without all necessary data needed for further processing. Therefore a move from one layer to the next would indicate whether there are first and second quantities of residual samples) and "adding the first quantity of residual samples to the prediction" (Radha: figure 7, column 3, lines 15-27). However, Radha fails to show the subtraction and the indication comprising values associated with picture level parameters as claimed. Rose teaches that prior art coding systems cause undesired conflicts when trying to take advantage of additional information available to the enhancement layer (Rose: column 2, lines 10-14). To help alleviate this problem, Rose discloses

"subtracting the second quantity of residual samples from the refined prediction value to generate a final representation" (Rose: figure 5, wherein the second set of residual samples is the multiple enhancement layers). Takashima teaches that bit rate control operations become complex in prior art encoding systems (Takashima: column 3, lines 10-14). To help alleviate this problem, Takashima discloses an indicator "comprising one or more values associated with picture level parameters" (Takashima: figure 8, column 2, lines 57-64, wherein the picture level parameters is the picture type). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Radha, add the subtraction method taught by Rose, and add the processing taught by Takashima in order to obtain an apparatus that operates more efficiently by being able to take advantage of additional information given to a system without causing undesired conflicts/complexity.

Regarding claims 2 and 13, Radha discloses "the first and second residual samples are eight bit samples" (Radha: column 5, lines 37-45, wherein the pixel represents one byte or eight bits).

Regarding claims 3, 14, and 17, Radha discloses "performing an inverse discrete cosine transform of decoded transform domain representation of residual differences to be added to the motion compensated prediction" (Radha: figure 10, wherein the inverse discrete cosine transform is the inverse DCT, the

addition is performed by the adder (item 58), and the motion compensated prediction is performed by the motion compensation block).

Regarding claims 4, 7, 12, and 18, although not disclosed, the region of content could comprise a macroblock (Official Notice). Doing so would have been obvious since macroblocks are well known in the MPEG environment.

Regarding claims 5 and 16, Radha discloses "generating a prediction of media is performed by a graphics accelerator under the control of a decoder application" (Radha: figure 10, wherein the accelerator comprises the motion compensation and inverse DCT blocks).

Regarding claim 6, Radha discloses "sending prediction control information necessary for generation of a motion compensated prediction to the accelerator" (Radha: figure 10, wherein the accelerator comprises the motion compensation and inverse DCT blocks, the prediction control information is the enhancement and base layers and inverse quantization parameters), "sending an indication and the samples to the accelerator of whether the first and second samples are to be applied" (Radha: figures 5A and 8A, wherein the indication is the process from moving from one layer to the next indicating there are layers remaining), and "performing processing at the accelerator (Radha: figure 10, wherein the accelerator comprises the motion compensation and inverse DCT blocks which perform processing of the samples).

Regarding claim 11, note the examiners rejection for claims 5 and 6.

Regarding claims 15 and 20, Radha discloses the complementary decoder performing the operations of the encoder disclosed in the preceding claims. The decoder also comprises an "application program interface" (Radha: column 9, lines 57-59, wherein the interface is the application that runs to obtain the user input).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (571) 272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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